

TO: Iowa Newspaper Association Member Editors
FROM: Iowa Department of Economic Development
DATE: June 24, 2011
RE: "Iowa Innovators"

The "Iowa Innovators" series is a joint project of the Iowa Department of Economic Development (IDED) and the Iowa Newspaper Association (INA). The series is an outgrowth of an idea from member INA publishers. "Iowa Innovators" articles describe innovations that Iowa communities have used to improve their ability to attract employers. The articles also describe innovative Iowa companies on the cutting edge of technology, business expansion, workforce development and recycling.

IDED and INA hope these article ideas will be published locally and spark community and business initiatives statewide. If you have community or business success stories to share, contact: Iowa Department of Economic Development
200 East Grand Ave.
Des Moines, IA 50309
Call 800.245.4692 or e-mail: business@iowa.gov.

The following is a list of companies and communities featured in this round of "Iowa Innovators" articles:

- 1. Ajinomoto Heartland LLC** recently celebrated the 25th anniversary of its site in the southeast Iowa community of **Eddyville**. Since its 1986 opening, Ajinomoto's Iowa presence has grown substantially. The company built a sister plant, **Ajinomoto Food Ingredients LLC**, and together they manufacture a myriad of industry-leading nutritional products for animals and humans alike. The plants sit adjacent to each other and are part of a mammoth nutritional complex known as the Iowa Bioprocessing Center. With **Cargill** as an anchor, the two Ajinomoto companies, along with **Wacker Bioscience**, create a host of dextrose-derived products. Cargill hopes to replicate the success of the Iowa Bioprocessing Center in northwest Iowa. The company has purchased the shuttered Tate & Lyle ethanol plant in **Fort Dodge**, with plans to turn it into a world-class integrated biorefinery.
- 2. Anchored by two processing facilities —Sara Lee in Storm Lake and West Liberty Foods in West Liberty —the Iowa turkey industry raises nearly 11 million birds annually and has a \$1.5 billion economic impact on the state's economy. With a recent turkey-related expansion, the industry is poised to become even bigger. Aviagen Turkeys, Inc., the global market leader in poultry genetics, recently broke ground on the largest turkey hatchery in the world to supply commercial day-old turkey poults and eggs to the turkey industry throughout North America. Located north of the central Iowa community of Osceola, the new enterprise will be called Valley of the Moon Commercial Poults, Inc. The 87,000-square-foot, single-stage hatchery has an annual capacity of 50 million eggs with construction completion expected in fall 2011.**
- 3. The recent grand opening of Shenandoah's Green Plains Renewable Energy BioProcess Algae** bioreactor showcased an exciting project where carbon dioxide generated by the production of ethanol is used to grow algae — which can then be turned into fuel and feed for animals. But this is not the only revolutionary renewable energy project in the state. In **Emmetsburg, POET** continues development of cellulosic ethanol production at its Project Liberty facility. It is now accepting corn crop residue at its commercial stackyard. POET produces more than 1.7 billion gallons of ethanol annually at its 27 production facilities nationwide. The company plans to break ground in Fall 2011 on one of the nation's first major commercial-sized facilities to produce cellulosic ethanol. POET will use the waste from corn fields — the cobs, husks and stalks — to make profitable ethanol.

Iowa's Golden Kernels

They came from near — Iowa Gov. Terry Branstad and Lt. Gov. Kim Reynolds — and far — Ajinomoto USA, Inc. President and CEO Shinichi Suzuki — to celebrate the 25-year anniversary of Ajinomoto Heartland LLC's Eddyville, Iowa location. Since its 1986 opening, Ajinomoto's Iowa presence has grown substantially.

Along with a sister plant, Ajinomoto Food Ingredients LLC, they manufacture a myriad of industry-leading nutritional products for animals and humans alike. The two plants sit adjacent to each other and are part of a mammoth nutritional complex known as the Iowa Bioprocessing Center.

With Cargill as an anchor, the two Ajinomoto companies, along with Wacker Bioscience, are now using and developing sophisticated fermentation processes to create dextrose-derived products, essential amino acids for animal and human use, bio-plastics and a host of chemicals derived from renewable resources.

"Cargill and its partners transform more than a quarter million bushels of corn each day into everything from food ingredients like soft drink sweeteners, citric acid and natural flavor enhancers, citrate products, natural vitamin E, and glucosamine, to animal feed products, ethanol, and even into agents used in fabric softener sheets," said Cargill General Manager Kaye DeLange.

More than \$250 million in new capital investment has come from the two Ajinomoto businesses, who profit from an "over-the-fence" partnership next to Cargill. Ajinomoto Heartland manufactures feed-grade Lysine and Threonine, Tryptophan, and Valine, and is a leading producer of feed-grade amino acids for swine and poultry.

In fact, the company just announced plans to launch a new product specifically for dairy cows, called AjiPro-L.

"Our Eddyville location efficiently produces feed-use amino acids that contribute to the utilization of limited agricultural resources," says Daniel Bercovici, Heartland Animal Nutrition president. "Our products allow livestock producers to improve the nutritional balance of their feed."

In 1993, Ajinomoto Food

Ingredients started manufacturing a wide variety of seasonings for snacks, soups and prepared meals.

Since then, the company has tripled its original capacity to satisfy market demand.

Together, Ajinomoto Heartland and Ajinomoto Food Ingredients employ 220 Iowans.

In the northwest Iowa community of Fort Dodge, Cargill hopes to replicate the success of the Iowa Bioprocessing Center.

The company recently purchased the shuttered Tate & Lyle ethanol plant there, with plans to turn it into a world-class integrated biorefinery.

Cargill plans to invest more than \$100 million in the new facility that will transform 150,000 bushels of corn each day according to company spokeswoman Nicole Reichert.

"We expect that after extensive modifications to increase efficiencies, we'll have a biorefinery with an annual capacity of producing 115 million gallons of ethanol."

Reichert says Cargill was drawn

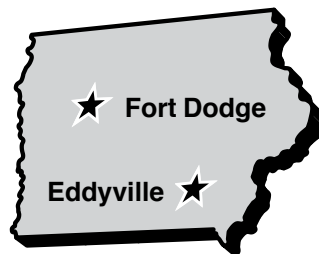
to Fort Dodge because it sits in the middle of a massive supply of corn, and the facility has good transportation options that include the convergence of two major railroad lines and an opportunity to maintain a well-educated workforce.

"We believe that a highly efficient, well-located corn wet mill ethanol plant fits well into our bio-product portfolio," said Alan Willits, president of Cargill Corn Milling North America. "We see an opportunity in Fort Dodge to replicate the success we have had at our Blair, Neb. and Eddyville biorefinery campuses."

"Our vision is to eventually produce many other bio-based products at the facility," he added.

Helping leverage Cargill's expansion project was a \$2 million forgivable loan from the Iowa Department of Economic Development and a series of tax incentives from its High Quality Jobs program.

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Talking Turkey in Iowa

Iowa's turkey industry provides an annual impact of \$1.5 billion on Iowa's economy, according to Gretta Irwin, executive director of the Iowa Turkey Federation. The industry is anchored by two processing facilities with the capacity to produce more than 14.5 million turkeys annually.

"Each year growers raise nearly 11 million birds," said Irwin. "Many Iowa turkey farmers are second- and third-generation farmers who raise their birds in large, open, environmentally controlled barns."

While Iowa ranks ninth in the U.S. in the number of turkeys raised each year, several new and recently completed projects mean the industry's economic impact in Iowa is poised to become even larger.

Aviagen Turkeys, Inc., the global market leader in poultry genetics, recently broke ground on the largest turkey hatchery in the world to supply commercial day-old turkey

poult and eggs to the turkey industry throughout North America.

Located north of the central Iowa community of Osceola, the new enterprise will be called Valley of the Moon Commercial Poults, Inc.

The 87,000-square-foot, single-stage hatchery has an annual capacity of 50 million eggs with construction completion expected in fall 2011.

The \$16.7 million project, which will create 33 new jobs, received a series of Enterprise Zone tax incentives, administered by the Iowa Department of Economic Development.

According to John Sims, Aviagen director of hatchery operations, Iowa's central geographic location in the heart of the Grain Belt led Valley of the Moon to expand in Iowa.

"Feed is the number one cost in raising turkeys. Our Iowa location allows us to grow poult and deliver them cost effectively," he said.

Two hours northwest of Osceola, Sara Lee Food & Beverage in Storm Lake just finished its \$46 million dollar expansion in turkey production.

It added 153 turkey production facilities in Iowa boosting production by nearly five million birds annually. Most of those birds will be processed at the Sara Lee Storm Lake turkey processing facility.

Fifteen years ago, a group of Iowa turkey growers formed a cooperative to purchase a soon-to-be

shuttered turkey processing facility in the southeast Iowa community of West Liberty.

Reopened as West Liberty Foods LLC (WLF), the operation is now a model for cooperative success — adding value not only to turkey but to beef, chicken and pork — and becoming a co-manufacturer for many of the most recognized food brands in the United States.

"WLF is a leading co-packer, private label manufacturer and food service supplier of sliced and processed deli meats, and fully cooked quick-frozen products," said WLF President and CEO Ed Garrett.

"Our customers rely on us to deliver innovative and custom packaging options, start-to-finish product development and brand protection — and we deliver."

With corporate headquarters and manufacturing in West Liberty, the company has opened two more state-of-the-art processing facilities — one in Mt.

Pleasant, Iowa and the other in Tremonton, Utah.

The three facilities hold to the highest food safety and quality standards in the industry and have more than 1,900 employees.

According to Garrett, each facility can add value to more than 5.4 million pounds of turkey, pork, chicken and beef each week.

Additionally, the West Liberty facility alone slaughters up to 22,000 large tom turkeys per day for further processing.

Garrett explained WLF decided early in its existence to produce fully cooked and ready-to-eat meats.

"Providing innovative solutions to our customers — whether it's center of the plate products or slice-to-specification meats — adds value to our product offerings and builds equity for our shareholders," he explained.

Adding value to Iowa-raised turkey, chicken, beef and pork, West Liberty Foods continues its quest to produce the safest, most delicious ready-to-eat offerings to be enjoyed by families throughout North America.

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Next-Generation Energy

U.S. Secretary of Agriculture Tom Vilsack was in the southwest Iowa community of Shenandoah to review the new commercial scale photo bioreactors/harvesters at Green Plains Renewable Energy's recent grand opening of its BioProcess Algae bioreactor. The event showcased an exciting project where carbon dioxide generated by ethanol production is used to grow algae — which can then be turned into fuel, feed for animals, and even cosmetics.

The initiative began two years ago and has now moved from an experimental pilot program into its second phase, where the algae is being produced on a larger, commercial level.

Praising the next-generation renewable energy initiative, Vilsack said, "this is the kind of innovation we need to build our economy."

Green Plains Energy and Bio-Process Algae have developed a process that produces a clean and reliable algae-based fuel source with the potential to meet the growing need for fossil fuel alternatives head-on.

BioProcess Algae puts water and algae in an enclosed environment and pumps in carbon dioxide emitted by the Green Plains facility while it makes ethanol.

This feeds the algae farm and recycles more than 250,000 tons of carbon dioxide emitted by the Green Plains ethanol plant annually. BioProcess Algae then extracts natural oils from the algae to produce biodiesel.

According to Sasha Forsen, Green Plains spokeswoman, not only does this method significantly reduce toxic emissions, but it also produces a clean energy by-product through an effective recycling process.

"The natural oils in algae produce biodiesel far more efficiently than soybeans can," she noted.

To support this effort, Green Plains received a \$2.1 million research and development grant to install the photobioreactors from the Iowa Office of Energy Independence.

Eventually, the facility may lead the way in exceeding energy needs by creating a readily available fuel source that powers our future and remedies pollution caused by other energy sources.

But this is not the only revolutionary renewable energy project in the state. In Emmetsburg, POET continues devel-

opment of cellulosic ethanol production at its Project Liberty facility. The company is now accepting corn crop residue at its commercial stackyard, according to Jim Sturdevant, director of Project Liberty.

The company began transforming corn into clean-burning ethanol 23 years ago, and now produces more than 1.7 billion gallons of ethanol annually from 27 production facilities nationwide.

POET is planning to break ground in the fall 2011 on one of the nation's first major commercial-sized cellulosic ethanol production facilities.

It will use the waste cobs, husks and stalks from corn fields to make profitable ethanol.

"When our commercial cellulosic ethanol refinery is fully operational, we'll need 770 tons of bone dry material each and every day," said Sturdevant. "POET is developing biomass handling best

practices, now and in real time, so that when our cellulosic biorefinery produces ethanol, it will be efficient."

A recent report by the U.S. Departments of Energy and Agriculture stated there are 1.3 billion tons of biomass available in the U.S. each year.

"If we converted that to ethanol, it would eliminate our country's reliance on imported foreign oil," said Sturdevant.

He is excited to get started. "The \$200-million facility will not only produce ethanol from biomass," he said, "It will also include technology that generates biogas to power the plant, with enough left over to provide most of the power needs of our adjacent corn ethanol plant."

In Iowa, 41 ethanol plants are currently transforming the state's corn crop into nearly 3.7 billion gallons of ethanol each year.

With Project Liberty coming online in 2013, the production of ethanol from biomass such as crop waste, grass or other materials may hold the key to helping the U.S. reduce its reliance on imported fossil fuels.

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